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TIMBER MANAGEMENT PLAN

GENERAL TIMBER MANAGEMENT STATEMENT

GUNNISON NATIONAL FOREST

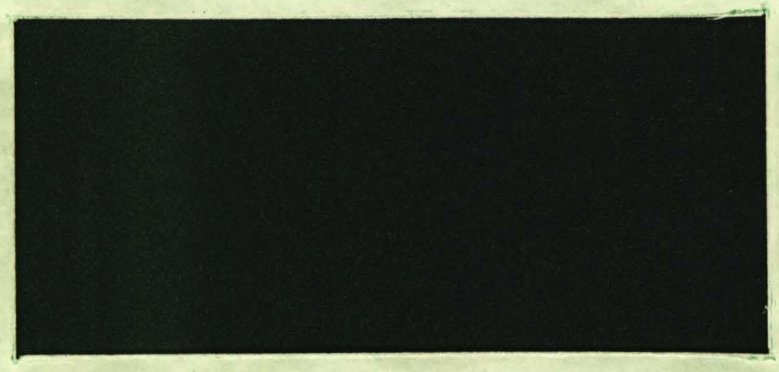
Colorado R-2

1959

REGION TWO

FOREST SERVICE

U. S. DEPARTMENT OF AGRICULTURE



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GENERAL TIMBER MANAGEMENT STATEMENT

GUNNISON NATIONAL FOREST

Colorado R-2

1959

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GENERAL TIMBER MANAGEMENT STATEMENT

U. S. DEPARTMENT OF AGRICULTURE

GUNNISON NATIONAL FOREST - REGION 2

COLORADO

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Approvals:

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Acting Regional Forester — 10 29 1960

Edward P. Cliff, Acting Chief, Forest Service — April 21 1960

456

Initials of Reviewer for
Division or Experiment Station:

Region or Station Initials	Date		Washington Office Initials	Date
CCA	2/25/60	Timber Management	HHM	4/1/60
BKS	11/19/59	Range Management	[illegible]	3/8/60
MFB	12/14/59	Wildlife Management	[illegible]	3/16/60
JCK	1.6.60	Recreation and Lands	[illegible]	3/18/60
JWC	11/20/59	Watershed Management	[illegible]	3/24/60
WHL	1/28/60	Engineering	C.T.S	3/22/60
BJM	12/8/59	Fire Control	KBW	3/23/60
J.L.H	1/22/60	Research	[illegible]	3/25/60
		Forest Pest Control	W.V.P.	3/28/60
		Land Adjustment	[illegible]	3-30-60

TABLE OF CONTENTS

	Page
Introduction	1
Land Description:	
Location	3
Subdivisions	3
Table #1 - Area of Forest by Ownership	3
Relation to Other Working Circles	3
Figure #1 - Location Map	2
Forest Description:	
Figure #2 - Area of Commercial Forest Land by Timber Types	4
Area of Commercial Forest Land by Stand Size	5
Cover Types and Stand Condition	5
Summary of Results Under Previous Plans	7
Table #2 - Previous Plans	7
Figure #3 - Actual Cut and Allowable Cut Compared	8
Figure #4 - Annual Cut All Species by Fiscal Years	9
Silvicultural System:	
System Used in Past	10
Current System	10
Management Objectives	11
Transportation	13
Table #3 - Summary of Forest Development Transportation Plan as of June 30, 1958	13
Reforestation	14
Timber Stand Improvement	14
Protection:	
Disease	15
Insects	15
Animals	15
Fire	15
Weather	16
Figure #5 - Acres Burned by Years	17
Land Problems	18

TABLE OF CONTENTS (Cont.)

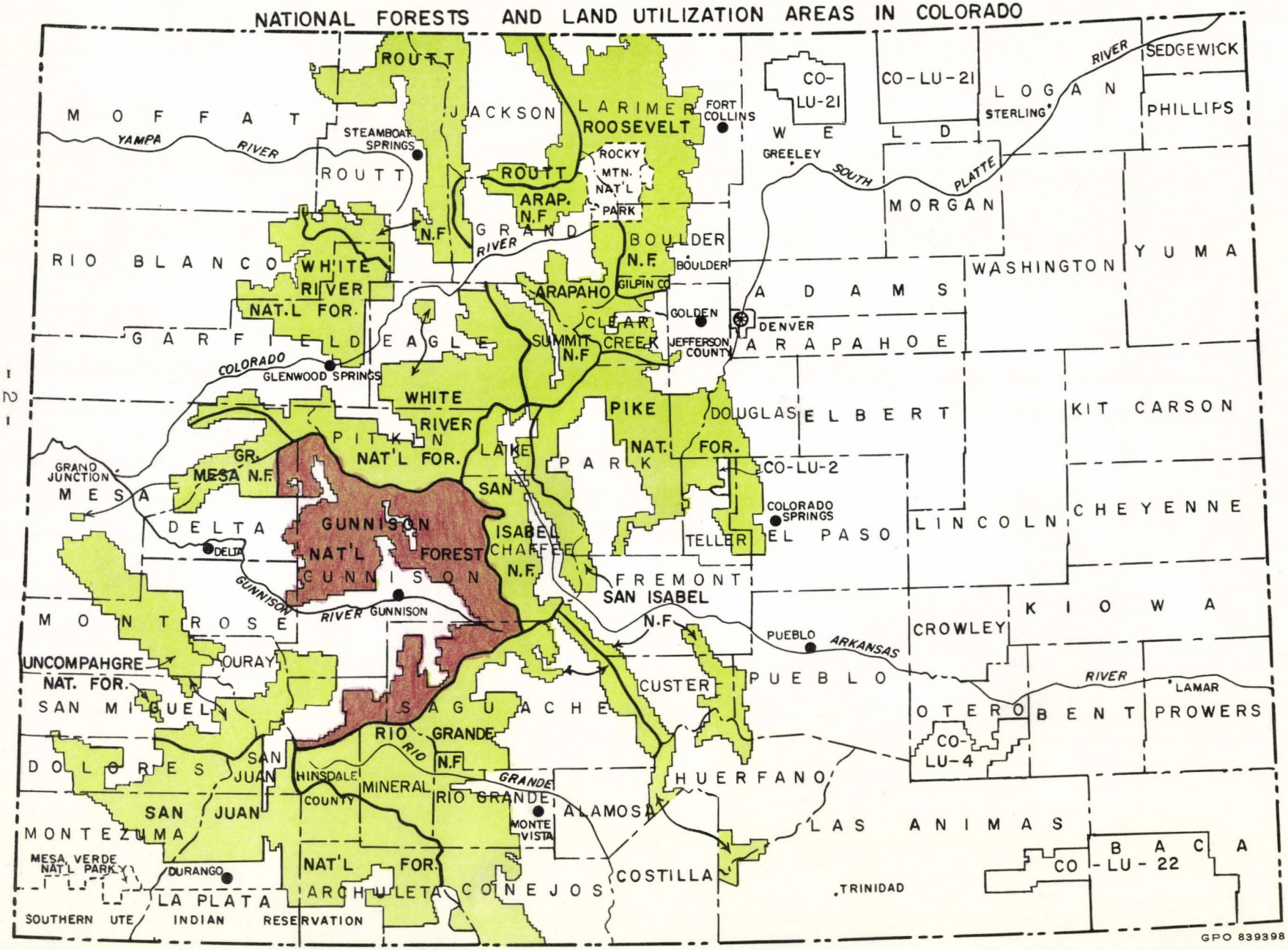
	Page
Multiple-Use Coordination	16
Water	18
Roadside Zones	18
Recreation Areas	19
Water-Influence Zone	19
Wildlife	20
Grazing	20
Cooperation with Other Agencies	20
Supporting Data:	
History of Timber Use and Development	21
Economy	21
Physiography	22
Figure #6 - Soil Type Map	23
Table #4 - Timber Cut and Sold Since 1915	25
Compartment Map of Gunnison National Forest	26

INTRODUCTION

The Timber Management Plan for the Gunnison National Forest has been prepared in two parts. Part one is a General Statement describing the forest, its timber resource, and conditions which affect this resource. In addition, it contains a statement of the objectives of timber management. Being mostly of a general nature, this statement will require infrequent revision.

The second part is the Working Circle Plan. This is based on the information and objectives contained in the General Statement, and sets up a 10-year program for managing the timber on the working circle. It includes calculation of the allowable cut and establishment of a cutting budget. The Working Circle Plan will be revised at not less than 10-year intervals.

The timber manager must also become familiar with the priorities of the Land Management Plan for the subregion and for the more limited area to which this Timber Management Plan applies.



Showing Location of Gunnison National Forest

LAND DESCRIPTION

1. Location

The Gunnison National Forest is in south-central Colorado immediately west of the Continental Divide. It is bordered on the north by the Grand Mesa Range; on the east, and most of the south, by the Continental Divide; on the west generally by the Uncompahgre Valley, and in the north-central area by the Elk Mountains.

Its location in relation to other Colorado national forests is shown on the map on page 2.

2. Subdivisions

The forest is composed of five ranger districts. It forms a single working circle which is divided into 40 compartments.

Table 1

Area of Forest By Ownership

Thousand Acres

National Forest					State, County etc.	Private	Grand Total
Commercial Forest Land	Non-Commercial	Non-Forest	Reserved	Total			
1,007	186	405	61	1,659	12	89	1,760

3. Relation to Other Working Circles

Logs cut from this working circle are manufactured into products largely at points tributary to other working circles. Railheads at Delta and Montrose, for example, also serve the Uncompahgre and Grand Mesa Working Circles to the west and north. In addition, timber cut in the eastern portion of the forest is usually hauled east to Salida or Buena Vista in the San Isabel Working Circle. This pattern of operation results from the lack of industry and railroads within the forest.

FOREST DESCRIPTION

1. Area of Commercial Forest Land By Timber Types

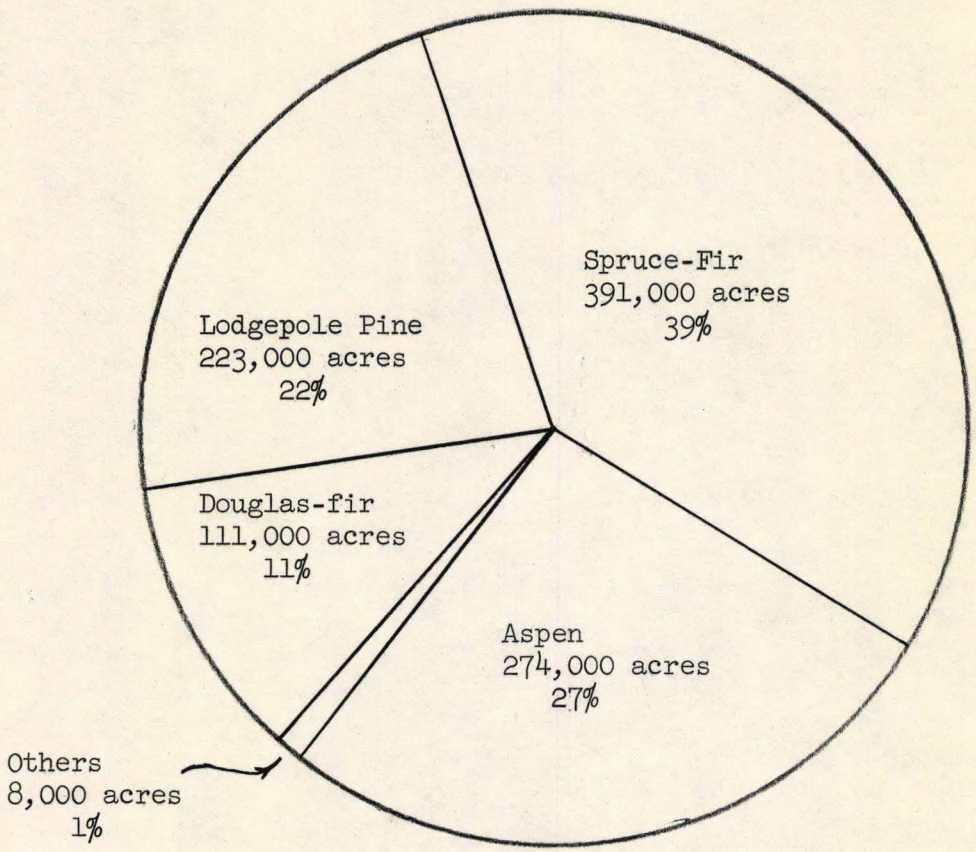


Figure 2

Total national forest commercial land area: 1,007,000 Acres.

2. Area of National Forest Commercial Forest Land By Stand Size Classes

Sawtimber	502,000 Acres
Poletimber	453,000 Acres
Seedling-Saplings	34,000 Acres
Nonstocked	18,000 Acres
Total	1,007,000 Acres

3. Cover Types and Stand Condition

(a) Engelmann Spruce - Alpine Fir Type

This type occurs principally at elevations from 9,000 feet to timberline. Stringers of the type follow stream bottoms to somewhat lower elevations and there is considerable intermixture with lodgepole pine and blue spruce along the lower extremities of the main stand. Virgin stands will average 20,000 ft. b.m. per acre, with defect ranging from 15% in mature to 30% in overmature stands.

Broom rust (Peridermium) is prevalent in Engelmann spruce and provides entrance for rot-causing fungi. The spruce bark beetle (Dendroctonus engelmanni, Hopk.) is present in endemic numbers and has a potential for explosive buildup.

There is little or no growth in overmature stands. Thrifty stands, however, can be expected to produce 150-200 ft. b.m. per acre under good management practices.

(b) Lodgepole Pine Type

Lodgepole pine on the Gunnison National Forest is about at the southern end of its natural range. There are two general age classes, namely, small pole stands originating from fires and logging during the period 1878 to the early 1900's, and overmature stands. The small pole stands are relatively free of dwarfmistletoe but growth is very slow because of overstocking. The overmature lodgepole averages 12 inches d.b.h. and 2 logs in height. Volumes on the better sites will average 10,000 ft. b.m. per acre. Cull seldom exceeds 10%. Growth is about at a standstill since the trees are heavily infected with dwarfmistletoe. Bark beetles (Dendroctonus monticolae or D. ponderosae, Hop,.) are present in endemic numbers. Under good management practices, growth of 100-150 ft. b.m. per acre can reasonably be expected.

(c) Minor Types

Ponderosa pine, Douglas-fir, and blue spruce usually occur in mixture on the lower mesas and canyon sides. Volumes are insufficient to make them commercially important as species or types. Dwarfmistletoe is prevalent in ponderosa pine, and the Black Hills Beetle (Dendroctonus ponderosae, Hopk.) is endemic in this species. Spruce budworm is present in Douglas-fir and is apparently on the increase.

Aspen is of generally poor quality and, except for limited commercial stands, is of importance principally for watershed protection.

(d) Woodland and Other Vegetative Types

Pinon-juniper and oakbrush types occur below the range of aspen. Sagebrush is found generally below these types and extends across the forest boundary.

SUMMARY OF RESULTS UNDER PREVIOUS PLANS

The objectives of previous management plans were about the same as at present. These were, namely:

1. Silvicultural - To put stands in the best possible silvicultural condition by removing overmature and mature trees and by applying stand improvement practices to immature stands.

2. Management - To produce the maximum, in volume and quality, of merchantable sawtimber under a sustained yield consistent with other uses of the forest.

Such objectives can be fully met only by attaining the allowable cut of sawtimber and by increasing utilization of small, round products to make commercial thinning of young stands possible.

The lack of transportation and of a substantial local timber industry have been the principal reasons for not meeting the objectives.

Table #2

PREVIOUS PLANS

Working Circle	Date of Approval	Area of Com. Forest Lands M Acres	Total Volume Sawtimber MMBF	Annual Allowable Cut MBF
Baldwin	6/24/31	29	136	2,034
Cebolla	4/4/28	154	677	6,162
Crested Butte	4/15/42	40	275	4,575
North Fork		18	71	1,400
Pitkin	9/18/53	14	115	1,535
Sapinero	12/12/50	63	651	7,500
Taylor River	9/9/36	167	1,222	18,322
Tomichi	5/4/27	121	501	7,300
Total		606	3,648	48,828

The total allowable cut for the forest was adjusted in 1957 to 29.5 MMBF.

ACTUAL CUT AND ALLOWABLE CUT COMPARED

A Comparison of the Cumulative Total Allowable Cut with the Actual Cut for the Period F.Y. 1949-F.Y. 1958

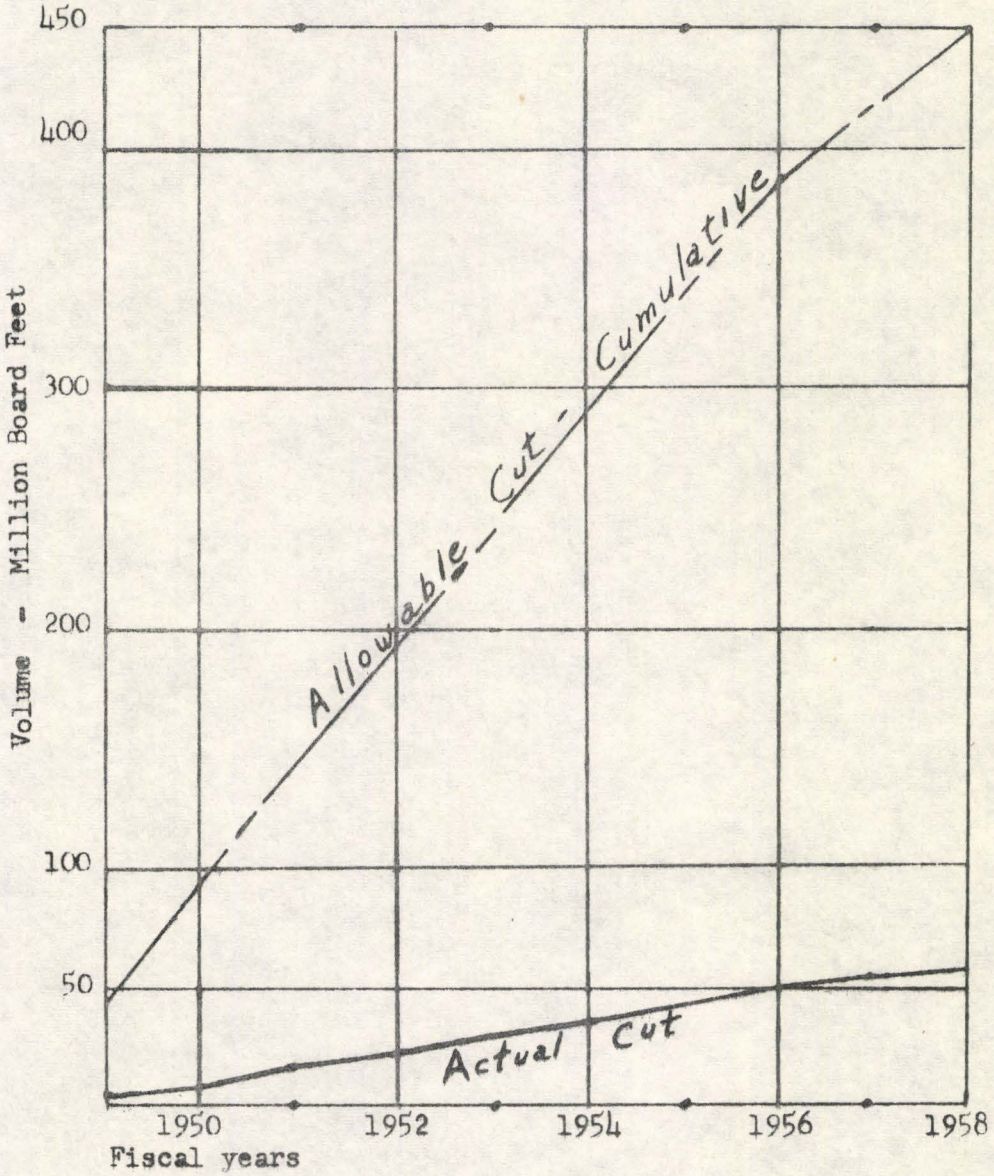


FIGURE #3

ANNUAL CUT ALL SPECIES BY FISCAL YEARS

GUNNISON NATIONAL FOREST

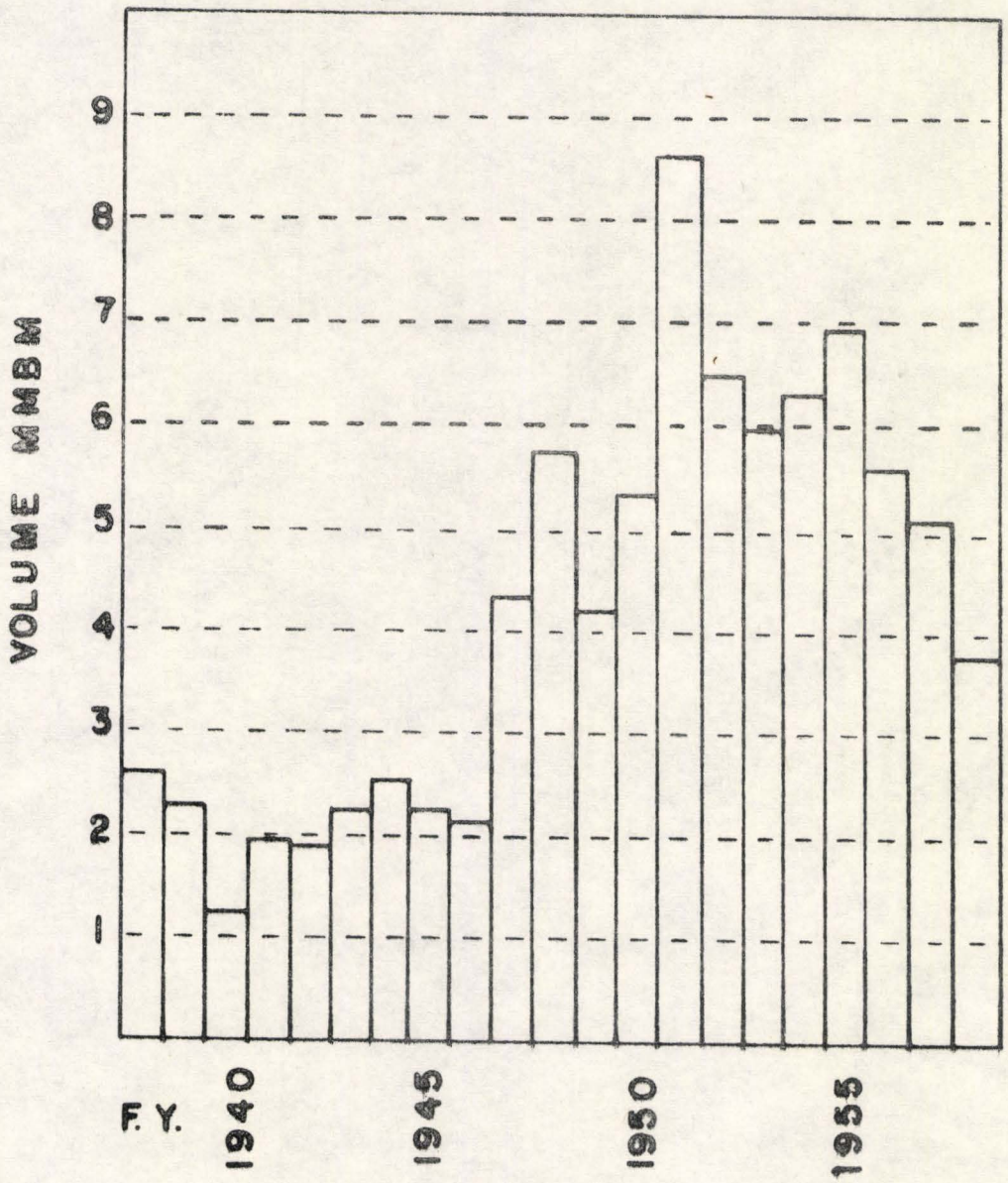


FIGURE #4

SILVICULTURAL SYSTEM

1. System Used in Past

The management plans approved prior to 1950 for the Gunnison National Forest specified use of the selection system except for mature and overmature lodgepole pine stands. These stands were to receive a commercial clear-cut. Uneven-aged management prevailed and was applied to all timber types unless its use was precluded by overmature and decadent stand conditions.

Management plans approved in 1950 or later have favored strip or group clear-cutting. The individual tree selection system was specified for Douglas-fir and ponderosa pine and for the more thrifty two-storied stands in the spruce-fir and lodgepole pine types. In applying the selection system, windfirmness was the guide as to the percent of volume to be cut. For Engelmann spruce, and usually in lodgepole pine, the residual stand was considered safe from windthrow after a cut of 50% of the merchantable volume.

2. Current System

Present silvicultural practice for all species is a commercial clear-cut by blocks, patches, or strips. Lodgepole pine trees 8.0 inches d.b.h. and larger are now being designated for cutting. The minimum d.b.h. for other species is 10.0 inches. This system will continue until all overmature stands are harvested.

In preparing working circle plans, the following silvicultural guide will be used (FSH 2-2442.8):

> Clear-cut at rotation age with even-age management as the objective. Limit partial cutting to recreation areas, waterfront and streamside zones, and other areas requiring special treatment. Cut in such stands only when it is necessary to remove trees for the protection of the public or for sanitation purposes.

MANAGEMENT OBJECTIVES

The basic, long-range objective is to harvest timber to the sustained yield capacity of the commercial forest lands devoted to the production of timber.

Although accurate growth information is lacking, it is believed that, under proper management, an average annual net growth of 150 ft. b.m. is within reason. This would amount to a total annual growth of 110,500 MBF from the 737,000 acres of commercial forest land. It is estimated, however, that growth is presently unsatisfactory on at least three-fourths of the commercial forest land.

This long-range growth objective can only be reached by putting into good growing condition all overmature, diseased, understocked and overstocked stands. To direct action toward obtaining the desired growth, short term (10-year) programs will be included in the working circle plans. The following principles will guide the preparation of these programs:

1. All overmature timber will be harvested within the next 40 years, that is, by the year 2000. The allowable cut will be reviewed and recalculated at least every 10 years. As better information is obtained in regard to volume, stand condition, growth, economics, etc., it may be desirable to adjust the length of the liquidation period for the over-matured stands.

2. Reduce infections of dwarfmistletoe and other diseases, and maintain such infections at the lowest practical levels. More than half the lodgepole pine stands, regardless of age, are heavily infected with dwarfmistletoe. Losses from this disease in sawtimber stands are as high as 3,000 board feet per acre.

3. Develop a desirable distribution of age classes; lodgepole pine within the first rotation and Engelmann spruce within the first two rotation periods.

4. Reduce overstocking in lodgepole pine stands by commercial and non-commercial thinnings.

5. Initiate a reforestation program that will--

   a. Reforest non-stocked lands, including old burns, during the next 20 years.

   b. Adequately stock cut-over areas within 3 years after cutting.

6. Maintain insect infestations at the current endemic level. Annual control work will be done on a maintenance basis to prevent insect population build-up to epidemic level.

7. Keep fire damage within the "PAR" objective.

Much of the job of putting the stands into good growing condition will be done through commercial timber sales and related sale area betterment. During the past 10 years, however, local industry harvested only 13% of the total allowable cut for the period. Since local sawmill capacity is sufficient to absorb but a small portion of the allowable cut, new industry establishment is essential. The full allowable cut will be attained by F. Y. 1970.

Non-commercial thinning will also be done on uncut areas using P&M financing. The remainder of the job of putting the stands into good growing condition will be done through commercial thinning. To accomplish this, a program will be initiated to establish a forest industry to utilize small, round material from trees not suited for sawlogs and poles. Such an industry should be established by 1980.

A continuing public relations program in educating the public in silvicultural and timber harvesting practices will be included in the forest's I&E plans.

Adequate training of all forest employees will be given priority attention in order to maintain a high standard of performance in timber management. On-the-job training, self-training, and group-training methods will be used to attain a high professional standard in timber management.

TRANSPORTATION

Markets for products from the forest are to the west and east. The ~~timber~~ lumber is normally sold rough-green to re-manufacturing plants at Salida, Montrose, Delta, and Grand Junction.

All lumber must be hauled out by truck since the forest is isolated from rail transportation. The Denver and Rio Grande Railroad has a branch line into Paonia, Delta, and Montrose to the west. Otherwise it is necessary to truck east over 11,000 foot passes to railheads at Salida and Buena Vista.

Inter-State Highway U. S. 50 services the south part of the forest, and, in this area, most of the timber cutting has been on the Q.T. block. Timber access roads are lacking in all other southern blocks.

In general, the forest is characterized by a lack of transportation system and hence by a small harvest of timber.

During the past year, construction has been started on timber access roads into the Texas, Tincup, and Cochetopa compartments.

Table #3

Summary of the Gunnison National Forest Development Transportation Plan as of June 30, 1958

Primary Forest Value	Existing Miles	Additional Needs - Miles	Total
Timber	381	3,527	3,908
Administration and Fire	189	13	202
Other Resources	140	18	158
Total	710	3,558	4,268

The working circle plan will schedule the roads needed for the removal of the timber listed in the cutting budget. Road plans should be completed not less than one year prior to the timber offering.

Timber access roads will generally be designed to meet multiple-use needs of the area. For purchaser-built roads, construction costs

above those required to remove the timber will be borne by the Forest Service. For some remote timber areas, it may be necessary to delay harvest until the demand for access for other forest uses will allow multiple-purpose financing of road construction.

REFORESTATION

A total of 412 acres has been planted on the Gunnison. Of this area, 300 acres, or 73%, are considered as successfully restocked. Seeding has been done on 166 acres but survival information is not available.

Long-range needs include re-establishment of commercial forest species on 22,100 acres of non-stocked forest land. Fill-in planting on an estimated 100,000 acres of under-stocked stands, particularly Engelmann spruce, is also needed to bring such areas into full production.

TIMBER STAND IMPROVEMENT

Timber stand improvement work has been done on 2,970 acres, 2,550 acres of which were included in the Waunita Pass C.C.C. thinning project. Dwarfmistletoe control was done on 120 acres in FY 1958.

Long-range needs are for thinning on an estimated 15,000 acres of overstocked lodgepole pine seedling-sapling stands, and dwarfmistletoe control on an estimated 32,000 acres of lodgepole pine sawtimber stands.

PROTECTION

1. Disease

Dwarfmistletoe on lodgepole pine, and witch's broom (Peridermium) on Engelmann spruce are prevalent and cause heavy losses. Other diseases, such as root rot, probably also result in appreciable loss, but their presence is more difficult to identify in the stand.

Advantage will be taken of timber sales and of K-V and other timber stand improvement funds to accomplish disease control.

2. Insects

There have been no epidemic outbreaks of barkbeetles or other forest insects in the past. Control of the present endemic population of the Engelmann spruce barkbeetle (Dendroctonus engelmanni, Hopk.) is on a maintenance basis. Its potential for developing serious epidemics is recognized and precautions will be taken in logging and following blow-downs so as to prevent such build-up.

The populations of Black Hills Beetle in ponderosa pine, Mountain Pine Beetle or Black Hills Beetle in lodgepole pine, and Douglas-fir beetle or spruce budworm in Douglas-fir will be watched for indications of increase.

3. Animals

The porcupine population is moderately heavy and will require control effort by forest officers. Sportsmen will be encouraged also to assist in porcupine control as a conservation measure.

Big game and range livestock do not cause appreciable damage in natural stands. Their influence will, however, be considered when future planting sites are selected.

4. Fire

As was usual in the Rocky Mountain forests, many large fires occurred prior to establishment of the "reserves". Fires occurring since that time have been held to below Class E size.

Annual PAR

Number of man-caused fires	8
Class C, D, or E	1
Burned area, acres	27

Two Class D fires have occurred since the forest was established. These were the West Pass Creek fire in 1954 (125 acres) and the Mosquito Creek fire in 1958 (108 acres).

Regional policy will be applied in treating slash and in providing extra protection.

The area burned, by years, is shown on the graph which follows.

5. Weather

Although violent windstorms are not common, they do occur occasionally. One recorded October 20 to 26, 1906, up-rooted nearly all the trees in spruce-fir stands on the headwaters of West Willow Creek and northern branch of Quartz Creek and on Gold Hill. In 1941, a similar wind damaged timber on West Beaver Creek. Since such a blow-down can be a nucleus of insect attack, each occurrence will be watched for possible build-up.

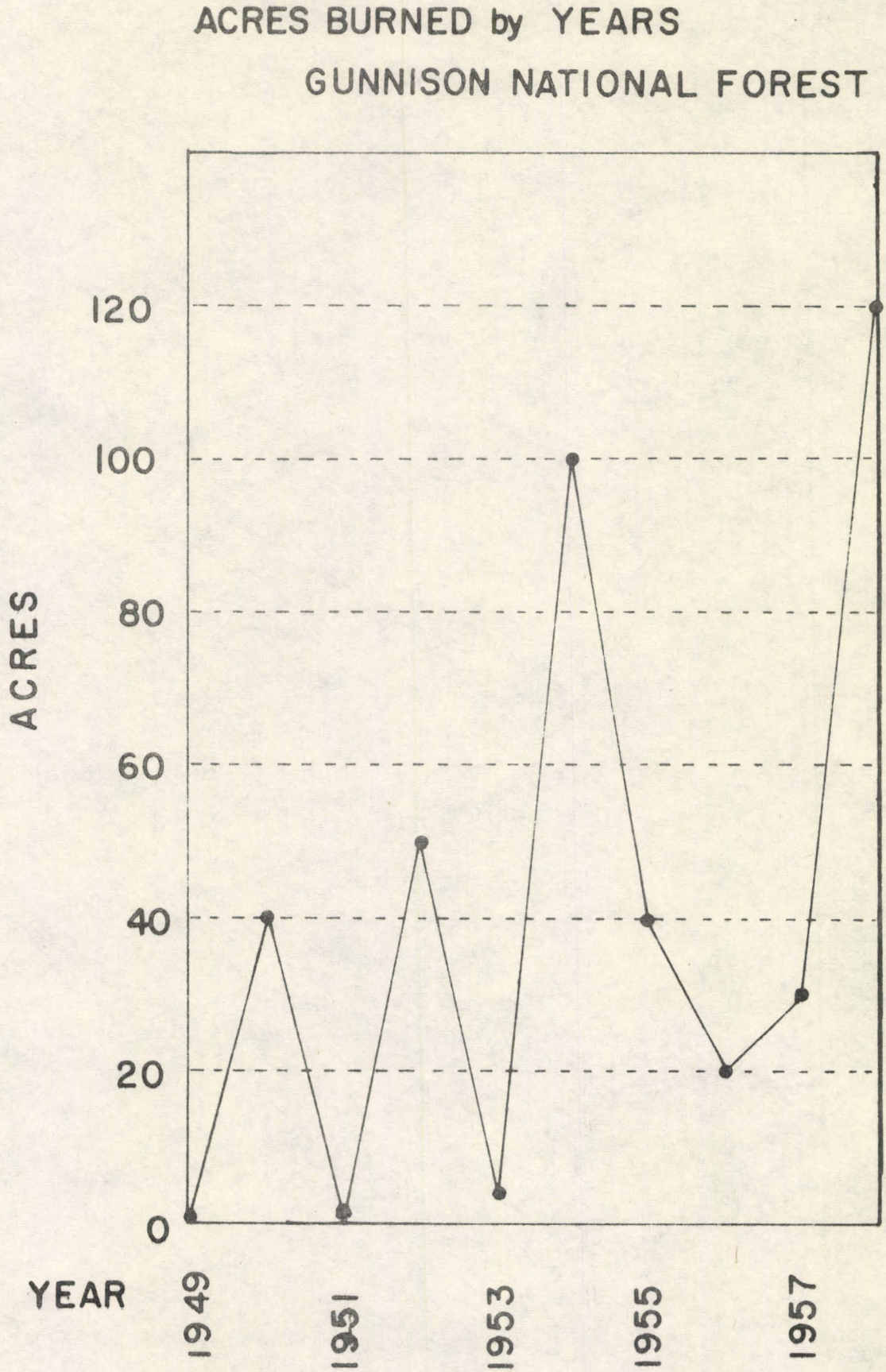

ACRES BURNED by YEARS
GUNNISON NATIONAL FOREST
120
100
80
60
40
20
0
ACRES
YEAR
1949
1951
1953
1955
1957

FIGURE #5

LAND PROBLEMS

Most privately-owned land is in the meadow type along the major streams. It seldom includes merchantable timber but does offer occasional right-of-way problems. Patented mining claims in timbered areas bear a more direct relationship to national forest timber operations. Cutting of timber by claim owners required checking against trespass across boundaries as well as working out problems of access and rights-of-way.

Where practicable, patented commercial forest land will be acquired under the forest acquisition program.

MULTIPLE-USE COORDINATION

The Multiple-Use Land Management Plan for the Western Colorado Subregion gives the overall management objectives, directions, and priorities for the use of the land within the forest. The commercial forest lands are in the Intermediate Zone in which priorities are:

Primary - Water and timber

Secondary - Wildlife and grazing

The Travel and Water Influence Zones and Special Areas may cut across the Intermediate Zone. Where these include commercial forest land, primary use of such land is for other than timber production.

1. Water

When timber cutting is planned, consideration will be given to its effect on the water resource. No timber will be cut on unstable soil or extremely steep slopes unless special measures are taken or special logging equipment used to prevent accelerated soil movement.

Timber sale contracts will require purchasers to take action to prevent or repair erosion damage from road construction or logging operations.

2. Roadside Zones

For Interstate Highway U.S. 50, the working circle plan will include a specific statement of any cutting planned within the roadside zone. The Acting Chief's approval of the working circle plan or revision thereof will constitute authority for the cutting. Any other cutting of live timber in this zone will require the special approval of the Chief. Dead and down material may be cleaned up without approval when for the reduction of fire hazard.

For other highways and recreation roads of first importance, the

forest supervisor is authorized to harvest timber for special demonstration purposes, for removal of insect-infested and diseased trees, safety hazard reduction, and for essential clearing for approved purposes.

Demonstration areas will be properly signed.

Partial cutting will be prescribed only when there is assurance that the residual stand will be reasonably windfirm.

All logging slash and residue in designated roadside zones will be completely abated.

Logging camps, mills, and landings will not be located within designated roadside zones.

3. Recreation Areas

The forest supervisor may approve the cutting of timber in developed recreation areas and those reserved for future development when the purpose of cutting is to protect, improve or maintain a stand of timber adequate for the recreational uses to be made of such areas. This will include the removal of insect-infested and diseased trees when necessary for the maintenance of the stand. Trees that may be a hazard to the safety of those using the areas should also be removed.

Slash and debris from trees cut within these areas will be completely abated, and logging camps, mills, and landings will be so located as not to lessen the present or future value for recreation purposes.

Timber sale contracts authorizing operations in an area affected by adjacent heavy recreation use will provide for safety of the public.

4. Water-Influence Zone

The same objectives and principles discussed under "Recreation Areas" apply here. Timber sale contracts will require purchasers to conduct operations in such manner as not to contaminate streams or lakes or to otherwise damage their values.

Fish-producing streams will be retained in their natural condition. Logging slash and other debris will be kept out of the streambed and off stream banks and will be completely abated. Logging roads will be kept as far away from streambanks as is practicable and will be properly drained to keep silting of streams to a minimum. Road crossings of streams will be properly laid out and carefully constructed to minimize soil and streambed disturbance.

Logging camps, mills or landings will not be permitted within this zone.

5. Wildlife

Guidelines as stated in the "Wildlife Coordination Plan" for the Gunnison National Forest will be referred to when preparing for sales and when coordinating timber management objectives with proper wildlife management practices.

Clear cutting by patches, strips, or blocks, increases fringe area and hence is beneficial to wildlife. Openings to be provided in large plantations will benefit wildlife as well as enhance snow storage capacity for watershed improvement. Wildlife concentration areas will be avoided in selecting plantation sites in the "Intermediate Zone," and affect upon wildlife food resources will be considered in selecting such sites in the "Low Zone." (See also comments under Item 4, Water Influence Zone).

6. Grazing

Logging and other timber-use roads will be located so as to avoid natural parks and meadows, and logging or milling debris will be kept out of such areas.

COOPERATION WITH OTHER AGENCIES

Cooperative relations between the forest and the state and with other federal agencies are good. In timber management, relations are maintained primarily with the State Land Board, State Forest Service, State Highway Department, and U. S. Bureau of Land Management. The State Forest Service administers cooperative tree planting and fire control activities on state and private land. In addition, there is cooperation between the forest and the State Fish and Game Department in fire control and in wildlife management.

Good cooperative relationships in these fields are essential and will be continued.

SUPPORTING DATA

1. History of Timber Use and Development

The Gunnison National Forest was established May 12, 1905 by proclamation by President Theodore Roosevelt. In January 1, 1945, all lands in the Cochetopa National Forest west of the Continental Divide were transferred to the Gunnison. On November 15, 1954, the Muddy District of the Grand Mesa National Forest was added.

The first commercial, or industrial, use of timber from the forest was for mining. Then, to serve this industry, railroads were built which required ties from the forest. Settlers and ranchers followed the miners and some of the mining camps persisted to become the present communities. These were constructed primarily from lumber from the forest.

The period of greatest early timber activity was from 1880 to 1883, with an annual cut of about 4,000 MBF. The average annual cut for the period 1915 to 1958 was only 3,320 MBF, and for the past 10 years (1949-1958) it was 5,820 MBF.

2. Economy

A. Population Centers - Five counties participate, through the "25% fund" in receipts from timber sales. In addition, 18 communities within and immediately adjacent to the forest can benefit in some manner from the timber industry. These counties and communities are:

Counties:

Delta	Pitkin
Gunnison	Saguache
Hinsdale	

Communities	Population (1950 census)
Gunnison	2,770
Crested Butte	730
Somerset	*
Bowie	*
Paonia	1,257
Sapinero	*
Crawford	170
Parlin	*
Sargents	*
Pitkin	152
Ohio City	*

Communities (cont.)	Population (1950 census)
Maher	*
Lake City	141
Doyleville	*
Hotchkiss	715
Castleton	*
Iola	*
Powderhorn	*

* Less than 100

B. Industry - Local utilization of even a small part of the allowable cut is precluded by limited population. Transportation of products to railheads at Montrose, Paonia, Salida, Buena Vista, or Monte Vista is, therefore, a necessary consideration for any substantial timber industry on the forest.

There are at present 5 small sawmills and a house-log manufacturer utilizing timber from the forest. Their estimated total annual cut is 8,000 MBF, of which 1,000 MBF comes from other than national forest land.

The principal industry is livestock grazing, with mining a secondary industry. The tourist business brings considerable supplementary income to the area.

3. Physiography

A. Geology, topography and soils - The Gunnison National Forest presents a complex picture as to geology, topography and soils. The conditions affecting timber management are that:

(1) Generally, topography is rough, with steep, rocky slopes, cliffs and talus slides. Valleys of main streams are wide and those of secondary streams are narrow and rocky.

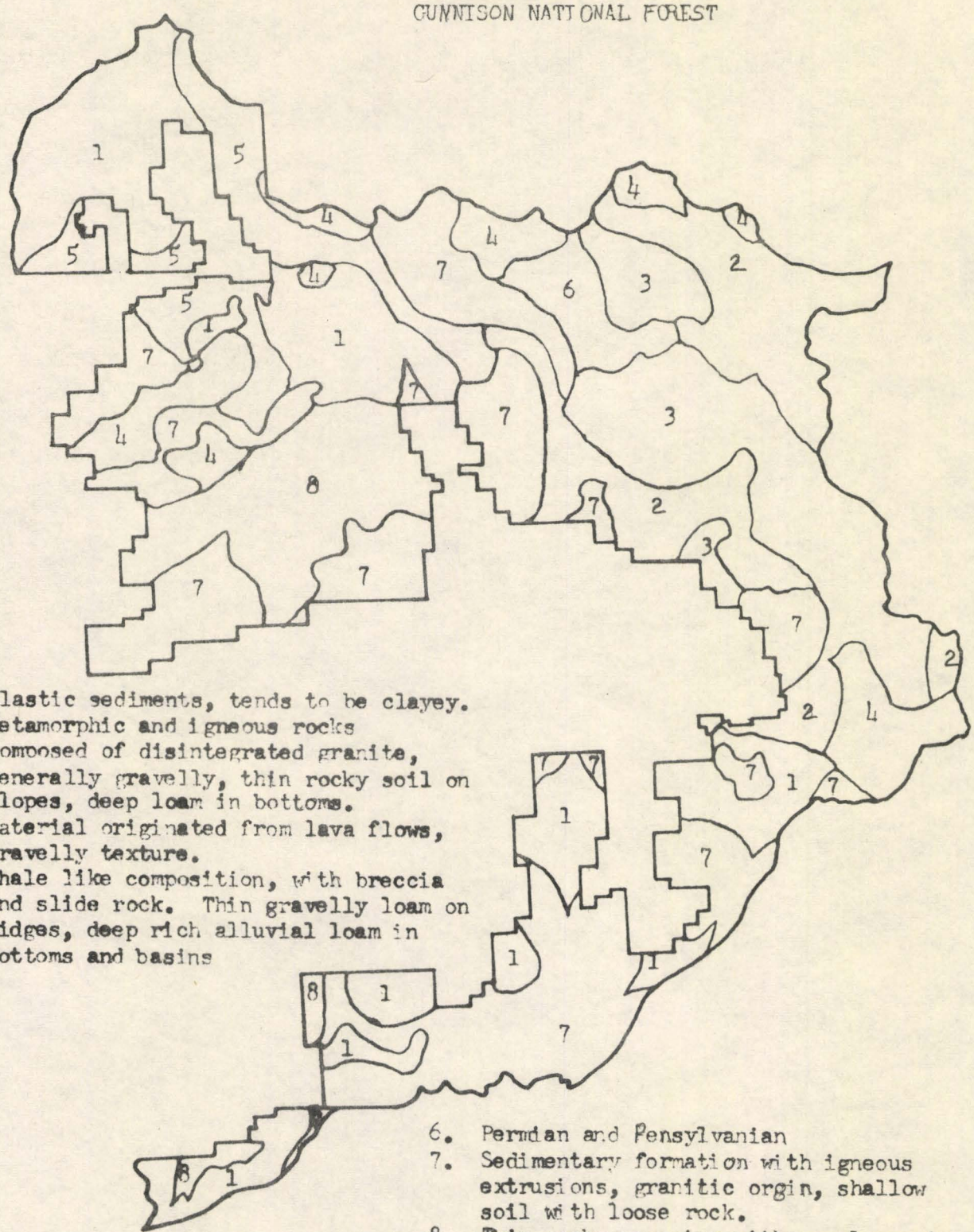
(2) Soils are mostly shallow and gravelly on ridges and steep slopes and deep, rich, alluvium in the valleys and timbered basins. In much of the lodgepole type, clayey soils underlain with hardpan prevail.

(3) Productive stands of Engelmann spruce occur particularly in basins at elevations above 8,000 feet where deep, rich soil has been trapped.

A soil type map follows on the next page.

SOIL TYPE MAP

GUNNISON NATTONAL FOREST



1. Clastic sediments, tends to be clayey.
2. Metamorphic and igneous rocks
3. Composed of disintegrated granite, generally gravelly, thin rocky soil on slopes, deep loam in bottoms.
4. Material originated from lava flows, gravelly texture.
5. Shale like composition, with breccia and slide rock. Thin gravelly loam on ridges, deep rich alluvial loam in bottoms and basins
6. Permian and Pensylvanian
7. Sedimentary formation with igneous extrusions, granitic orgin, shallow soil with loose rock.
8. Thin rocky covering with conglomerate on slopes and gravelly loam in bottoms.

FIGURE #6

B. Climate - The Gunnison Forest's climate is characterized by long, cold winters and short summers with scattered thundershowers. Summer nights are cool.

The average annual precipitation is from 10 to 36 inches for elevations of 6,000 - 10,000 feet. At these elevations, snowfall ranges from 45 to 460 inches. In the higher mountains, snowdrafts remain throughout the year. Fifty percent of the annual precipitation may occur during the summer. At elevations above 8,500 feet, an operating season of about 7 months can be expected.

Temperatures vary from -40° to 90°, with an average annual temperature of 36°. The average growing season at 6,000 feet elevation is 161 days; at 8,900 feet it is 46 days. Freezing temperatures may occur every month above 7,000 feet. The "spring break-up" in April and May softens roads and may require suspension of hauling during this period.

Wind does not present a significant problem in timber management in this area.

Table #4

TIMBER CUT AND SOLD
GUNNISON NATIONAL FOREST
SINCE 1915

	Timber Sold				Timber Cut		
	No. Sales	MBM	Value	Avg. Sell. Price	MBM	Value	Avg. Sell. Price
1915 FY	114	2,974	3,877	1.30	2,609	4,696	1.80
1916 FY	140	3,397	4,064	1.20	2,726	3,686	1.35
1917 FY	90	3,536	6,573	1.86	3,084	4,650	1.51
1918 FY	119	2,834	4,568	1.61	2,578	3,875	1.50
1919 FY	108	8,223	21,622	2.63	2,558	4,389	1.72
1920 FY	115	2,851	7,807	2.94	3,494	6,171	1.77
1921 FY	95	2,113	4,170	2.09	2,916	7,456	2.56
1922 CY	67	1,009	2,279	2.42	2,542	6,661	2.62
1923 CY	45	641	1,502	2.58	1,966	5,591	2.84
1924 CY	60	1,507	3,635	2.41	928	2,111	2.27
1925 CY	84	4,843	13,640	2.82	3,661	12,692	3.47
1926 CY	58	1,116	2,775	2.49	2,084	6,593	3.16
1927 CY	41	728	1,616	2.22	2,628	8,453	3.22
1928 CY	54	11,516	20,957	1.82	3,506	10,497	2.99
1929 CY	60	860	1,676	1.95	5,654	14,922	2.64
1930 CY	48	2,767	7,211	2.61	4,458	9,840	2.21
1931 CY	47	1,402	2,625	1.87	5,761	14,890	2.58
1932 CY	48	647	1,557	2.41	1,291	2,678	2.07
1933 FY	22	476	1,356	2.85	814	1,724	2.12
1934 FY	58	617	1,123	1.82	556	1,158	2.08
1935 FY	50	593	1,160	1.96	550	1,002	1.82
1936 FY	66	2,690	5,598	2.08	1,638	3,654	2.23
1937 FY	84	4,751	11,017	2.32	1,780	4,141	2.33
1938 FY	42	1,365	2,970	2.18	2,604	5,627	2.16
1939 FY	56	1,489	3,149	2.11	1,353	2,827	2.09
1940 FY	65	1,239	2,116	1.71	1,222	2,528	2.07
1941 FY	55	4,290	9,753	2.27	1,942	4,426	2.28
1942 FY	60	2,009	4,507	2.24	1,759	4,117	2.34
1943 FY	48	1,993	4,983	2.50	2,168	4,909	2.26
1944 FY	36	4,243	11,799	2.78	2,493	5,763	2.31
1945 FY	32	2,325	6,089	2.62	2,225	5,551	2.49
1946 FY	49	28,210	78,028	2.77	2,075	5,495	2.65
1947 FY	81	4,381	12,446	2.84	4,318	11,264	2.61
1948 FY	52	5,258	16,397	3.12	5,789	17,857	3.08
1949 FY	33	2,407	6,537	2.72	4,193	12,156	2.90
1950 FY	52	4,438	11,987	2.70	5,345	15,279	2.86
1951 FY	28	7,396	19,868	2.69	8,582	23,595	2.75
1952 FY	37	5,145	21,220	4.12	6,483	17,742	2.74
1953 FY	37	3,714	15,497	4.17	6,047	20,883	3.45
1954 FY	26	10,213	48,995	4.80	6,337	24,460	3.86
1955 FY	28	5,015	26,354	5.26	6,909	29,652	4.29
1956 FY	33	2,003	9,059	4.52	5,596	22,786	4.07
1957 FY	26	4,468	20,092	4.50	5,072	22,433	4.42
1958 FY	37	2,842	11,963	4.21	3,666	14,662	4.00

2400
COMPARTMENT MAP
GUNNISON WORKING CIRCLE

LEGEND

Compartment boundary ——

Block boundary ▬▬

Revised 1/61

1-MUDDY BLOCK

2-CRESTED BUTTE BLOCK

1-TAYLOR PARK BLOCK

4-NORTH FORK BLOCK

2-CRESTED BUTTE BLOCK

3-SAPINERO BLOCK

6-Q.T. BLOCK

6-Q.T. BLOCK

5-CEBOLLA BLOCK

5-CEBOLLA BLOCK

21 - GUNNISON NATIONAL FOREST

1 - Gunnison Working Circle

1.- Taylor Park Block

001 Dorchester
002 Upper Spring
003 Trail
004 Texas
005 Tincup

2 - Crested Butte Block

006 Brush
007 Slate
008 Cement
009 Taylor Canyon

3 - Sapinero Block

010 Curecanti
011 Soap Creek
012 Steuben
013 Baldwin
014 West Elk #1

4 - North Fork Block

015 Anthracite
016 Coal Creek
017 Paonia
018 Black Mesa
019 West Elk #2

5 - Cebolla Block

020 Sawtooth
021 Cebolla
022 Lake City
023 Cochetopa
024 Pass Creek
041 La Garita

6 - Q-T Block

025 North Quartz
026 Pitkin
027 Ohio City
028 Waunita-Dawson
029 White Pine
030 Middle Quartz
031 Agate-Marshall
032 Long Branch
033 Needle
034 Razor Creek

7 - Muddy Block

035 Clearfork-Huntsman
036 East Muddy
037 West Muddy
038 Hubbard
039 Terror
040 Chair-Ragged Mtn.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

GUNNISON
NATIONAL FOREST
COLORADO
NEW MEXICO AND SIXTH PRINCIPAL MERIDIANS

*1959

Scale 1 0 1 2 3 4 5 Miles

LEGEND

- National Forest Boundary
- Adjacent National Forest Boundary
- Good motor road
- Poor motor road
- Trail
- Railroad
- Telephone line
- Supervisor's Headquarters / District ranger station
- Report fires here
- Guard or ranger station (not permanently occupied)
- House, cabin, or other building
- Schoolhouse
- Commercial or municipal air field
- Improved recreation area
- Improved picnic ground
- Wild area (less than 100,000 acres)
- Triangulation station

* Reprint of 1949 edition with boundary changes to Oct. 1, 1954

Revised Boundary 10-1-54 F.E.W.

Compiled at Regional Office, Denver from Forest Service aerial surveys, B.L.M., U.S.G.S. and other surveys, by R.F. Burrus and F.E. Washburn. Drawn by R.F. Burrus, 1949.

Longitude west from Greenwich

Polyconic projection
North American datum